

**WHAT IS CLAIMED IS:**

1. A liquid crystal display comprising:  
a first substrate having a plurality of pixel areas;  
at least one pair of first and second protrusions formed at each pixel  
5 area;  
a pixel electrode formed at each pixel area, the pixel electrode having  
an opening pattern exposing the first protrusion while covering the second  
protrusion;  
a second substrate facing the first substrate; and  
10 a common electrode formed at the second substrate.
2. The liquid crystal display of claim 1 further comprising a  
negative dielectric anisotropy liquid crystal sandwiched between the first and  
second substrates.
3. The liquid crystal display of claim 2 further comprising a first  
15 vertical alignment film coated on the common electrode, and a second vertical  
alignment film coated on the pixel electrode and the first protrusion.
4. The liquid crystal display of claim 1 wherein the first and second  
protrusions are formed parallel to each other.
5. The liquid crystal display of claim 1 further comprising:  
20 a thin film transistor formed at each pixel area, the thin film transistor  
comprising a gate electrode, a gate insulating layer formed on the gate  
electrode, a semiconductor pattern formed on the gate insulating layer over the  
gate electrode, and source and drain electrodes overlapped with side edges of  
the semiconductor pattern; and

a protective layer covering the thin film transistor.

6. The liquid crystal display of claim 5 wherein the first and second protrusions are formed with the same material as at least one of the gate insulating layer, the semiconductor pattern or the protective layer.

5 7. The liquid crystal display of claim 1 wherein the pixel electrode is formed with indium tin oxide or indium zinc oxide.

8. The liquid crystal display of claim 1 wherein the common electrode is formed with indium tin oxide or indium zinc oxide.

9. A liquid crystal display comprising:  
10 a first substrate having a plurality of pixel areas;  
a plurality of protrusions formed at each pixel area of the first substrate;  
a pixel electrode covering the protrusions, the pixel electrode having opening portions, the opening portions and the protrusions formed in parallel;  
a second substrate facing the first substrate; and  
15 a common electrode formed at the second substrate.

10. The liquid crystal display of claim 9 further comprising a negative dielectric anisotropy liquid crystal sandwiched between the first and second substrates.

11. The liquid crystal display of claim 10 further comprising vertical  
20 alignment films coated on the common electrode and the pixel electrode.

12. The liquid crystal display of claim 9 wherein the cross section of the protrusion is shaped as a rectangle.

13. A liquid crystal display comprising:  
a first substrate;

a gate line assembly formed at the first substrate, the gate line assembly comprising gate lines, with gate electrodes extended from the gate lines;

a gate insulating pattern covering the gate lines;

5 a semiconductor pattern formed on the gate insulating pattern over the gate electrodes;

a data line assembly formed on the structured substrate, the data line assembly comprising source and drain electrodes overlapped with side edges of the semiconductor pattern, and data lines connected to the source electrodes such that the data lines cross the gate lines;

a protective pattern covering the data line assembly and the semiconductor pattern except some portion of the drain electrode, the protective pattern being absent at a pixel area defined by the neighboring gate and data lines;

15 a protrusion pattern formed at the first substrate, the protrusion pattern having at least two protrusions positioned within the pixel area;

a pixel electrode covering the protrusion pattern at the pixel area while contacting the drain electrode, the pixel electrode having an opening pattern, the opening pattern being alternately arranged with the protrusion pattern;

20 a second substrate facing the first substrate; and

a common electrode formed at the second substrate.

14. The liquid crystal display of claim 13 wherein the cross section of the protrusion pattern is shaped as a rectangle.

15. The liquid crystal display of claim 14 wherein the protrusion

pattern comprises an under-layer formed with the same material as the gate insulating pattern, and an over-layer formed with the same material as the protective pattern.

16. The liquid crystal display of claim 13 wherein the gate insulating pattern has the same shape as the protective pattern except some portion under the drain electrode.

17. The liquid crystal display of claim 13 further comprising:  
color filters formed at the second substrate while corresponding to the pixel areas of the first substrate, the color filters being positioned between the common electrode and the second substrate; and

a light interception layer interposed between the neighboring color filters.

18. The liquid crystal display of claim 13 further comprising a negative dielectric anisotropy liquid crystal sandwiched between the first and second substrates.

19. The liquid crystal display of claim 18 further comprising vertical alignment films formed on the pixel electrode and the common electrode to vertically align liquid crystal molecules.

20. The liquid crystal display of claim 13 wherein the common electrode is formed with indium tin oxide or indium zinc oxide.

21. The liquid crystal display of claim 20 wherein the pixel electrode is formed with indium tin oxide or indium zinc oxide.

22. The liquid crystal display of claim 13 further comprising an ohmic contact layer disposed between the semiconductor pattern and the

source and drain electrodes.

23. A method of fabricating a liquid crystal display comprising the steps of:

forming a gate line assembly on a first substrate, the gate line assembly  
5 comprising gate lines and gate electrodes;

depositing a gate insulating layer onto the first substrate with the gate  
line assembly;

forming a semiconductor pattern on the gate insulating layer such that  
the semiconductor pattern is overlapped with the gate electrodes;

10 forming a data line assembly on the structured first substrate, the data  
line assembly comprising source and drain electrodes overlapped with side  
edges of the semiconductor pattern, and data lines connected to the source  
electrode while crossing the gate lines to thereby define pixel areas;

depositing a protective layer onto the data line assembly, the  
15 semiconductor pattern and the gate insulating layer;

forming a first protective pattern and a first gate insulating pattern on  
the data line assembly, the semiconductor pattern and the gate line assembly  
except some portion of the drain electrode by etching the protective layer and  
the gate insulating layer, and forming a protrusion pattern at the pixel area, the  
20 protrusion pattern being formed with the second protective pattern and the  
second gate insulating pattern;

depositing a first transparent conductive layer onto the structured first  
substrate; and

forming a pixel electrode at the pixel area while forming an opening

pattern within the pixel electrode by etching the first transparent conductive layer such that the pixel electrode covers the protrusion pattern while contacting the drain electrode.

24. The method of claim 23 further comprising the steps of:

5 forming color filters at a second substrate;

forming a common electrode on the color filters through depositing a second transparent conductive layer onto the substrate with the color filters; and

10 aligning the first and second substrates such that the pixel electrode faces the common electrode.

25. The method of claim 24 further comprising:

coating a first vertical alignment film onto the pixel electrode;

coating a second vertical alignment film onto the common electrode;

and

15 injecting a liquid crystal into the gap between the first and second substrates.

26. The method of claim 25 wherein the liquid crystal has a property of negative dielectric anisotropy.

27. The method of claim 24 wherein the second transparent  
20 conductive layer is formed with indium tin oxide or indium zinc oxide.

28. The method of claim 27 wherein the first transparent conductive layer is formed with indium tin oxide or indium zinc oxide.

29. A liquid crystal display comprising:

a first substrate having a plurality of pixel electrodes;

a second substrate facing the first substrate; and  
at least one pair of first and second typed domain regulating members  
formed on one of the first and second substrates;

wherein the first typed domain regulating member does not generate  
5 electric fields, and the second typed domain regulating member is formed with  
protrusions capable of generating electric fields.

30. The liquid crystal display of claim 29 wherein the cross section  
of the protrusion is shaped as a rectangle.

31. The liquid crystal display of claim 30 wherein the protrusion is  
10 covered by the pixel electrode.

32. The liquid crystal display of claim 29 wherein the first typed  
domain regulating member is formed with opening portions formed at the pixel  
electrode, and protrusions positioned within the opening portions.

33. The liquid crystal display of claim 32 wherein the protrusion is  
15 formed with one or more of the channel formation layers.

34. The liquid crystal display of claim 33 wherein the channel  
formation layers are a gate metal layer, a gate insulating layer, a semiconductor  
layer, and a protective layer.